

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:  
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## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) <b>31 MAR 2005</b>	
Applicant's or agent's file reference  11672/030335	<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No.  PCT/US04/33951	International filing date (day/month/year) 14 October 2004 (14.10.2004)
Priority date (day/month/year) 15 October 2003 (15.10.2003)	
International Patent Classification (IPC) or both national classification and IPC  IPC(7): G01N 24/00, 33/00, and US Cl.: 436/173, 86, 89, 135	
Applicant  VANDERBILT UNIVERSITY	

1. This opinion contains indications relating to the following items:

- ☒ Box No. I      Basis of the opinion
- ☐ Box No. II      Priority
- ☐ Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV      Lack of unity of invention
- ☒ Box No. V      Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI      Certain documents cited
- ☐ Box No. VII      Certain defects in the international application
- ☐ Box No. VIII      Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Yelena G. Gakh, Ph.D.  Telephone No. (571) 272-1700
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*Jean Proctor*  
 Paralegal Specialist

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/33951

**Box No. I Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments: .

**WRITTEN OPINION OF THE  
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International application No.

PCT/US04/33951

**Box No. IV Lack of unity of invention**

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:
- ☐ paid additional fees
- ☐ paid additional fees under protest
- ☒ not paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
- ☒ not complied with for the following reasons:
- See the lack of unity section of the International Search Report(Form PCT/ISA/210)

4. Consequently, this opinion has been established in respect of the following parts of the international application:
- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-12 and 14-18

**WRITTEN OPINION OF THE  
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International application No.  
PCT/US04/33951

**Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims <u>1-12</u>	YES
	Claims <u>14-18</u>	NO
Inventive step (IS)	Claims <u>1-12</u>	YES
	Claims <u>14-18</u>	NO
Industrial applicability (IA)	Claims <u>1-12, 14-18</u>	YES
	Claims <u>NONE</u>	NO

**2. Citations and explanations:**

**Claims 14-18** lack novelty under PCT Article 33(2) as being anticipated by Fishman (US 5,769,901). Fishman discloses a hair dye composition dissolved in water, comprising a peroxy carbonate (col. 3, line 10) and protein or amino acid (col. 3, lines 25-40). Lysine is well known as a component of dyes.

**Claim 14-18** lacks novelty under PCT Article 33(2) as being anticipated by JP 53035076. JP 53035076 discloses a solution for preventing fiber goods from fading, comprising sodium percarbonate and an amino acid, glutamic acid in particular. A protein or lysine can be used in place of glutamic acid.

**Claims 1-12** meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest MS analysis of proteins in the presence of peroxy carbonate.

The closest art is the paper of several of the present inventors published in JACS on January 28, 2004. Therefore it is not considered a prior art for the instant application.